April 15, 1958 R. M. GRAMS 2,830,556

ELECTRIC ANIMAL RESTRAINING DEVICE

Filed Feb. 8, 1957

Fig. 1

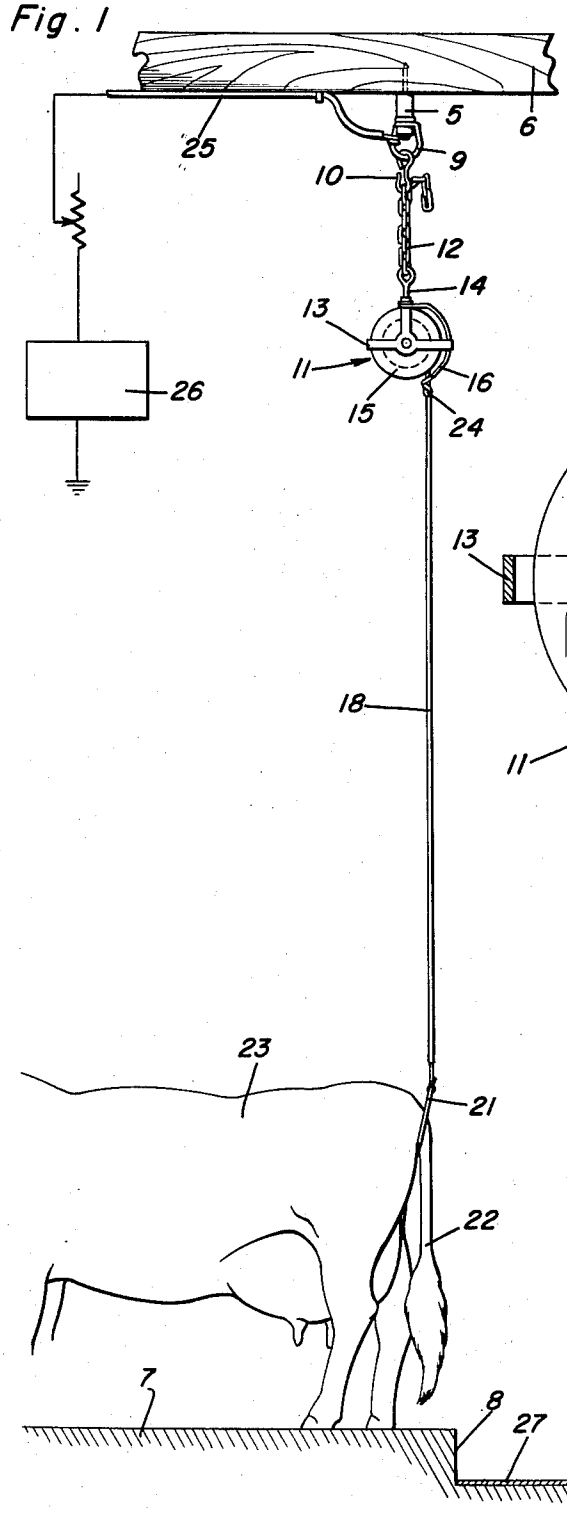
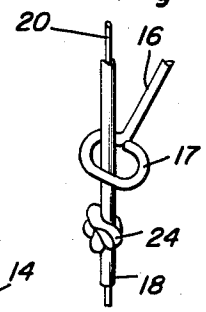


Fig. 4



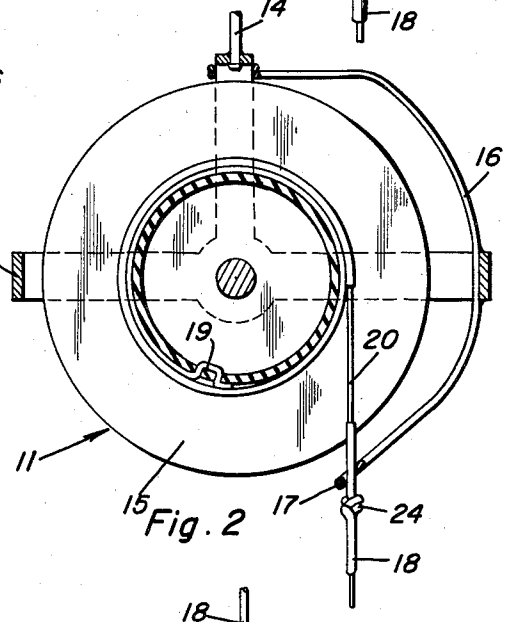


Fig. 2

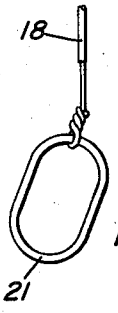


Fig. 3

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ELECTRIC ANIMAL RESTRAINING DEVICE

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4 Claims. (Cl. 119—27)

The present invention relates to new and useful improvements in animal controlling or restraining devices to be used particularly in dairy barns and has for its primary object to provide, in a manner as hereinafter set forth, novel means for preventing a cow from standing with its hind feet in the usual gutter at the rear of the platform or stall.

Another very important object of the invention is to provide a restraining or controlling device of the aforementioned character comprising means for automatically electrically shocking the cow should the animal drop its hind feet into the gutter.

Other objects of the invention are to provide an automatic restraining or controlling device of the character described which will be comparatively simple in construction, durable, compact, highly efficient and reliable in use and which may be manufactured and installed at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and which:

Figure 1 is a view in side elevation, illustrating a device embodying the present invention in use, showing a portion of the electric system diagrammatically;

Figure 2 is a view in vertical section through the spring reel unit;

Figure 3 is a detail view of the conductor wire achoring ring which is mounted on the tail of the animal; and

Figure 4 is a perspective view of the contact ring and an intermediate portion of the conductor cord.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises an insulator **5** which is secured beneath the usual ceiling **6** of a barn above a platform or stall **7** in said barn. Reference character **8** designates the usual gutter at the rear of the platform or stall **7**.

Mounted on the insulator **5** and depending therefrom is a metallic loop **9**. A hook **10**, also of metal, is suspended from the loop **9**.

A reel unit **11** is suspended from the hook **10** through the medium of a chain **12** of suitable metal. The links of the metallic chain **12** are selectively engageable in the hook **10** for vertically adjusting the unit **11**.

The unit **11** includes a metallic frame **13** swivelly mounted on an eye **14**, also of metal, to which one end of the chain **12** is connected. Journaled in the frame **13** is a drum or reel **15** of suitable insulating material.

Also mounted on the frame **13** adjacent the periphery of the drum or reel **15** and extending from the upper portion of said frame to a point below said drum or reel is a metallic rod **16**. The lower end of the rod **16** is free and formed to provide a contact ring or loop **17**.

A conductor cord **18** is slidable through contact ring **17** and has one end anchored to the drum **15**, as at **19**, for winding thereon. A suitable spring (not shown) actuates the drum **15** for winding the conductor cord **18** thereon. Adjacent the drum **15** the conductor cord **18** includes a skinned or bare portion **20** for engagement with the contact ring **17**. The lower or free end of the conductor cord **18** is electrically connected to a metallic anchoring loop or ring **21** which is adapted to be slipped on the tail **22** of the cow **23** to be restrained or controlled. The conductor cord **18** is knotted to provide a stop **24** which is engageable with the contact ring **17** for arresting said conductor cord after it has been rewound sufficiently on the drum **15** to disengage the stripped or skinned bare portion **20** from said contact ring.

Reference character **25** designates a conductor wire electrically connected to the loop **9**. The conductor wire **25** is connected to any suitable source of electric current through a conventional electric fence controller **26**.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, when the cow **23** is standing with all four feet on the platform or stall **7**, as shown, the bare portion **20** of the wire of the conductor cord **18** is out of engagement with the contact ring **17**, as shown in Figure 2 of the drawing. However, should the cow **23** place either or both hind feet in the gutter **8**, thus lowering its rear end, the conductor cord **18** is unwound from the drum **15** and the bare portion **20** of said conductor cord contacts the ring **17**. In this manner, the animal is electrically shocked and will step upwardly out of the gutter. The cord **18** is then rewound on the drum **15** for disengaging the element **20** from the element **17**, thereby reopening the electric circuit. If desired, this circuit may include a ground plate **27** of suitable metal in the bottom of the gutter **8**. As the conductor cord **18** is rewound, it is arrested by the stop **24** immediately after the bare portion **20** thereof passes through the ring **17**. Should the animal lie down, the relatively short bare portion **20** of the conductor cord **18** passes quickly through and below the contact ring **17**, thereby subjecting said animal to the electric current for only an instant.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An animal restraining device of the character described comprising: a reel unit suspended from a support and including a drum, an electric contact ring mounted on the unit and connected to a source of electricity, and an insulated conductor cord slidable through said ring and having one end secured to the drum for winding thereon and its free end electrically connected to the animal for actuation thereby for unwinding the cord from the drum, said cord including an uninsulated portion engageable with the ring for closing an electric circuit to the animal when said cord is unwound from the drum.

2. An animal restraining device of the character described comprising: a reel unit including a metallic frame, a drum of insulating material journaled in said frame, means for suspending said unit from a support, means for electrically connecting the frame to a source of current, a contact ring mounted on the frame and electrically connected thereto, an insulated conductor cord slidable through said ring and having one end secured to the

drum for winding thereon, and a metallic loop on the free end of the cord for the reception of an animal's tail for electrically anchoring said cord to said animal, said cord including an uninsulated intermediate portion engageable with the ring when said ring is unwound from the drum for completing an electric circuit to the animal.

3. An animal restraining device of the character described comprising: an insulator for mounting beneath a ceiling, a metallic hook depending from said insulator, a reel unit, said reel unit including a metallic frame and a drum of insulating material journaled in said frame, a chain having one end connected to the frame, said chain including metallic links engageable selectively in the hook for adjustably suspending the reel unit from the insulator, a contact ring mounted on the frame and electrically connected thereto, an insulated conductor cord slidable through the ring and having one end secured to the drum for winding thereon, a metallic loop electrically connected to the free end of the conductor cord and engageable over the tail of an animal for electrically anchoring said conductor cord to said animal, said cord being operable by the animal for unwinding said cord from the drum, said cord including an uninsulated intermediate portion engageable with the ring when said cord is unwound from the drum for closing an electric circuit

to the animal, and means for connecting the chain to a source of electric current.

4. An animal restraining device of the character described comprising: a reel unit including a frame and a spring retracted drum of insulating material journaled in said frame, a contact ring on the frame adjacent the drum, means electrically connecting said contact ring to a source of current, means for suspending the drum from a support, an insulated conductor cord slidable through the ring and having one end secured to the drum for winding thereon, a loop on the other end of the cord for the reception of the tail of an animal for electrically anchoring said cord thereto for actuation thereby, said cord including an uninsulated intermediate portion engageable in the ring for closing an electric circuit to the animal when said cord is unwound from the drum, and a stop on the cord engageable with the ring for arresting said cord as it is rewound on the drum after said uninsulated portion has been disengaged from said ring.

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